BTeV IP Review

- Nice, prepared presentations
- Need doughnuts next time…

- Main Issues:
  - Vacuum
  - Impedance
  - Aperture and Operations
  - Radiation Environment

Vacuum

- Overall design -- no issues in principle, but very big gas load…
  - Gas load likely higher than in mock-up
  - Design goal should be 1e-8 torr or better
- Regeneration frequency needs to be defined and assessed
- RGA scan of model with realistic (up-to-date) components should be performed
- Carbon near electrostatic separators may be a concern

Impedance

- Direct measurement is a good way to know the impedance(!). Broad band impedance estimates do not uncover sharp resonances, which are clearly present.
- RF shielding…
  - Measurements will show if necessary at all
  - If necessary, look for something other than wires
- Effects of beam on detector:
  - parasitic heating of pixel detector from the beam current a problem? Noise on the system? (to be tested)

Aperture and Operations

- Ramping of bending magnets in C0 is preferred
  - Ramping of SM3 magnet needs to be studied further
- Should consider using other (new) magnets other than B2's.
  - Not sufficient aperture during test mode (downstream end of C0)
  - Poorer field quality, old magnets
- Scenarios of switching from test mode to running mode not well defined. A "test" plan needs to be developed and reviewed.

Radiation Environment

- Radiation loads and residual dose rates to pixel detector (and other components), dipole magnets, and low-beta quads need to be refined
- Machine-related radiation loads to the pixel detector during normal operation and for beam accidents need to be analyzed
- Study impact of BTeV operation on machine and other detector IRs
- Establish collaboration with Accelerator Integration Department for items above
- Need diagnostic tool(s) to provide guidance and protection while inserting pixel detector